



Possible effects of changes in the meteorological state over semi-arid areas on the general well-being of weather-sensitive patients

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Abstract:

BACKGROUND: The influence of the changes in atmospheric states, typical for areas close to big deserts, on general well-being of hypertensive persons was analyzed. **METHODS:** Under test was the group of 20 hypertensive weather-sensitive patients; their blood pressure, pulse rate and appearance of 4 symptoms of discomfort sensations: arthritic pain, unjustified anxiety, severe headache and inexplicable tiredness- were registered. Symptoms are classified in ICD-9 code (780-790) and scored on a 4-point scale. Results were defined as positive (no departure from the range of normal values) or problematic; the daily number of the latter results was collected under the name "pathological reactions" NPR if at least two of these 7 checked symptoms (of one patient) were outside the normal range. Comparison of the current weather conditions with their means, questioning of patients and repeated examinations are used to gain information. The data was analyzed employing the SAS statistical software. Pearson and Spearman correlations were used, applied on the best and worst days, when a minimum and a maximum of pathological changes NPR in the patients' well-being were observed. The statistical significance was $p < 0.05$ in all cases. **RESULTS:** ~1500 medical observations and verbal statements were registered in the Primary Care Clinic (Be'er-Sheva, Israel) during 2001-2002. No meaning correlation was found between NPR and absolute values of temperature, humidity and atmospheric pressure. Variations in wind speed WS and direction were expressed in blood pressure changes and in exacerbation of discomfort of various degrees. Unfavorable conditions correspond to days with dominant desert air streams and to high WS, when NPR reaches 85.7%; during the days with prevalent sea breeze NPR was 4 m.s-1. The Spearman test gives higher correlation than Pearson test ($\rho \sim 0.14$, $p < 0.03$ against $\rho \sim 0.1$, $p < 0.04$). **CONCLUSIONS:** NPR is more affected by the air streams than by absolute values of meteorological parameters. The method of this study might give to family doctors some additional tools to predict deterioration in general feelings of chronic patients and could be related to other health problems influenced by the meteorological environment.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3423070>

Resource Description

Exposure : ☒

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Temperature: Fluctuations

Geographic Feature: ☒

Climate Change and Human Health Literature Portal



resource focuses on specific type of geography

Desert

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Israel

Health Impact:

specification of health effect or disease related to climate change exposure

Mental Health/Stress, Other Health Impact

Mental Health Effect/Stress: Mood Disorder

Other Health Impact: Well-being

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly, Pregnant Women

Other Vulnerable Population: Hypertensive

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified